LETTERS TO THE EDITOR

Acquisition of pharyngeal gonorrhoea via sweets passed by mouth

I would like to report two cases of oropharyngeal gonorrhoea in twin children in whom the transmission occurred via sweets passed from their infected sister. A 16 year old girl, victim of multiple rape, attended the GUM department in Coventry for a check up. Throat culture grew penicillin sensitive *Neisseria gonorrhoeae* while cervical and urethral Gram stained smears and cultures were negative. A swab taken from the cervix for *Chlamydia trachomatis* was also positive. The patient received treatment for both infections and tests after treatment were negative.

The mother was worried as the patient had the habit of exchanging sweets with her twin sisters (sweets were passed by mouth). On the doctor's advice, the twin sisters of the patient, who were 2½ years old, were brought to the clinic by their mother. Throat cultures for *N gonorrhoeae* from the twins were positive. Both were treated with penicillin and tests after treatment were negative. When the cultures were found to be positive, the mother brought the rest of her children to the clinic. Throat cultures for gonorrhoea from the mother, 14 year old boy, and 6 and 4 year old girls were all negative. The raped girl denied having direct oral contacts with her twin sisters.

Non-sexual transmission of gonorrhoea seems to be extremely rare in adults. Only one case of non-sexual transmission of genital *N gonorrhoeae* is documented in adults[1] and in another transmission possibly occurred through an inflatable doll.[2] Non-sexual acquisition of gonococcal infection occurs more often in infants and children.[3,4] Transmission of pharyngeal gonorrhoea is usually oro-oral or through oro-genital sex or fellatio. Transmission of pharyngeal gonorrhoea without direct oral contact has not been studied. The susceptibility of *N gonorrhoeae* to drying is a major factor in limiting the non-sexual transmission of this organism.[3] Gonococci can survive for up to 24 hours on a towel when periodically rinsed with warm, physiological saline.[5] Gonococci were recovered from a wide variety of hard and soft materials for up to 3 days[6]; therefore, the risk of transmitting pharyngeal infection through contaminated food or utensils is theoretically possible. This might have implications in suspected child abuse cases. To the best of my knowledge, no case of pharyngeal transmission of gonorrhoea has been documented through exchanging sweets or chewing gum.

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1 Herman L. *The practice of urology*. Philadelphia: W P Saunders, 1939.
2 Kleist E, Moi H. Transmission of gonorrhoea through an inflatable doll. *Genitourin Med* 1993;**69**:321–5.
3 Gilbaugh JH, Fughs PC. The gonococcus and the toilet seat. *N Engl J Med* 1979;**301**:91–3.
4 Neinstein LS, Goldenring J, Carpenter S. Nonsexual transmission of sexually transmitted diseases: an infrequent occurrence. *Pediatrics* 1984;**74**:67–74.
5 Elmros T, Larsson P-A. Survival of gonococci outside the body. *BMJ* 1972;**3**:403–4.
6 Srivastava AC. Survival of gonococci in urethral secretions with reference to the non-sexual transmission of gonococcal infection. *J Med Microbiol* 1980;**13**:593–6.

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An unusual presentation of vulvar carcinoma: a traumatic aetiology?

The aetiology of vulvar carcinoma in the elderly is poorly understood. Risk factors such as human papilloma virus (HPV) infection, cervical dysplasia, and cigarette smoking, which predict the development of disease in the younger population, do not seem to correlate with disease in the elderly. We present the case of a patient with vulvar carcinoma of the clitoris and a history of a black ant bite to the affected area, suggesting a potential traumatic or viral aetiology.

A 75 year old nulligravid female was referred for the treatment of carcinoma involving the clitoris. She initially presented with a 4 month history of itching and burning of the clitoris, and attributed her symptoms to a black ant bite several months previously. On review there had been a significant weight loss, of 15 lb, during this period. Her last pelvic examination had been in 1945, and there was no family history of gynaecological malignancy.

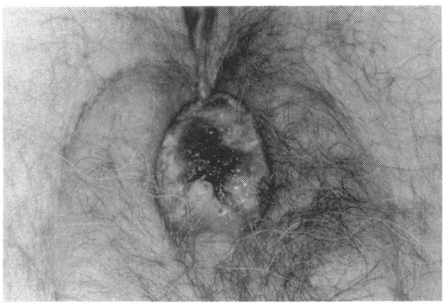
Physical examination revealed a lesion of the clitoris, irregular and ulcerated in areas with central necrosis (fig). Shotty inguinal lymphadenopathy was also seen. Biopsy specimens were consistent with keratinising epidermoid carcinoma. The patient subsequently underwent a radical vulvectomy with bilateral groin dissection. The tumour measured over 5 cm in diameter, and 0/33 regional lymph nodes were positive for metastatic disease. After almost 5 years of follow up, no evidence of recurrence was detected.

Vulvar carcinoma is traditionally a disease of the elderly, most often developing in the seventh and eighth decades.[1] Although the overall incidence (between one and two per 100 000) suggests that it is a fairly rare disorder, this rate increases with age. In one study a peak incidence of 20 per 100 000 after the age of 75 was reported.[2]

Recent literature has focused on the rising number of younger women with vulvar carcinoma.[3] Preliminary studies have linked several risk factors to the development of disease in this population, including HPV, cervical dysplasia, and smoking. In contrast, these risk factors do not seem to be significant predictors of disease in the elderly, suggesting a different disease process in this population. Further evidence to suggest that distinct subsets of this disease exist is that tumours in the younger population tend to be more poorly differentiated and more prognostically unfavourable.[2]

Our elderly patient had the unique presentation of carcinoma with an antecedent history of an insect bite to the clitoris. We have, therefore, suggested the possibility that this irritating event served as the impetus for tumour formation.

Vulvar irritation has been previously associated with development of cancer, particularly in patients with a history of vulvar lichen planus and other types of chronic irritation.[2] Although the mechanisms by which lichen planus cause malignant degeneration are not known, it is thought that inflammation and the presence of continued epithelial renewal may be of importance.[4] It is, therefore, plausible that an event such as a bite could result in a similar process.



Clitoral carcinoma, irregular and ulcerated in areas with central necrosis.

Another way to relate a bite to tumour formation is by direct causation. There are published reports of tumour growths which are thought to be related to insect bites. Dermatofibromas, common benign cutaneous tumours, are thought to result from mechanical irritation of residual arthropod tissue deposited in the skin after a bite. Other associations between insect bites and subsequent tumour formation include the development of multiple primary cutaneous plasmacytomas[5] reported in one case, and a second case in which a clear cell acanthoma of the lower extremity developed at the site of previous insect bites.[6] In the latter example, the authors suggested the possibility of introduction of an epidermotropal virus into the tissue by an insect bite, causing tumour growth to occur.

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1 Cramer DW, Cutler SJ. Incidence and histopathology of malignancies of the female genital organs in the US. *Am J Obstet Gynecol* 1974;**118**:443–60.
2 Crum CP. Carcinoma of the vulva: epidemiology and pathogenesis. *Obstet Gynecol* 1992; **79**:448–54.
3 Messing MJ, Gallup DG. Carcinoma of the vulva in young women. *Obstet Gynecol* 1995;**86**:51–4.
4 Lewis FM, Harrington CI. Squamous cell carcinoma arising in vulval lichen planus. *Br J Dermatol* 1994;**131**:703–5.
5 Green T, Grant J, Pye R , Marcus R. Multiple primary cutaneous plasmacytomas. *Arch Dermatol* 1992;**128**:962–5.
6 Sangueza P, Sangueza AO. Acantoma de celula claras. (Spanish) *Med Cut ILA* 1983;**11**: 365–8.

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Genital *Chlamydia trachomatis* infection in women in a Nigerian hospital

Chlamydial infections are common in many developing countries, yet they are neither well recognised nor correctly treated in many instances.[1,2] *Chlamydia trachomatis* infection is now well established as a cause of non-gonococcal urethritis in men and as a cause of cervicitis and pelvic inflammatory disease

(PID) in women.[3] Infection during pregnancy may lead to postpartum endometritis in the mother and may be transmitted to the infant causing pneumonia or eye infections.

Prevalence of *Chlamydia trachomatis* genital infection in different populations of women in Africa range between 4·9% and 26%.[1 2 4] Studies from western countries showed a prevalence rate of between 3% and 5% in asymptomatic pregnant women and in women attending the gynaecology or family planning clinics to over 20% in women attending sexually transmitted disease (STD) clinics.[5 6]

There are no known studies on the prevalence of *Chlamydia trachomatis* infection from the northern part of Nigeria. The aim of this study was to determine the prevalence of *Chlamydia trachomatis* genital infection in an unselected group of women in our hospital.

The patients for the study were recruited from those attending the antenatal and the gynaecology clinics of the University of Maiduguri Teaching Hospital, Maiduguri, Nigeria. They were randomly selected. Information regarding patients' age, parity and marital status was obtained. Specific complaints of vaginal discharge and/or lower abdominal pain, infertility and previous history of STD/PID were recorded. Cervical swabs were taken after cleaning excess mucus. The swab was rotated for about 20 seconds, 1–2 cm into the endocervix. The swab was then withdrawn without touching the vaginal wall. The samples were processed using the Syva MicroTrak (Syva Co, California, USA) and Clearview (Unipath, UK) test kits according to manufacturers' recommendations. All the tests were carried out by one of the authors (JDA) after checking for intra-observer error.

A total of 138 women were tested for the chlamydia antigen. One hundred and seven (77%) of the women were attending the gynaecology clinic while 21 were attending the antenatal clinic. The age of the patients ranged between 17 and 42 years with a mean of 24 years. One hundred and twenty six (91%) of the women were married among whom 23 (18%) were in polygamous type of marriage (more than one wife to a husband). Seventy four (53%) of the women had one or more of the following complaints; vaginal discharge, lower abdominal pain and infertility. The remaining 64 (46%) were visiting the clinic for routine antenatal care or other gynaecological complaints (table). Fifty four (39%) of the women had a history of STD or PID.

For the Syva MicroTrak test, using 10 elementary bodies (EBs) as the cut off point in compliance with the manufacturer's recommendations, 12 samples (9%) were positive with between 11–19 EBs except for one which had more than 25 EBs. All those positive for the Syva MicroTrak test were also positive for the Clearview test. However, a further sample was positive only for the Clearview test. Nine (69%) of the positive samples were from women with symptoms. The others were all asymptomatic. Four (31%) of the positive samples were from pregnant women and included the one with the highest EB count.

Chlamydia trachomatis infection is generally considered a silent infection in women. This study consisted of unselected patients attending our gynaecology and antenatal clinics. They could therefore be considered to be a low risk group. The prevalence of genital chlamydia infection in this study was 9% which is similar to the figure of 10% reported from Ibadan in western Nigeria.[2] Positive samples were particularly high in women with symptoms of genital tract infection or a past history PID or STD. This agrees with earlier reports which showed the association between *C trachomatis* and salpingitis and subsequent tubal blockage. In a central African study, antibody to *C trachomatis* was detected in 86% of patients with acute salpingitis diagnosed at laparoscopy.[7]

Among pregnant women tested in this study, 13% were positive. This figure is much higher when compared with those from developed countries.[5 6] However, the prevalence rate compares favourably with detection rate of 11·4% among antenatal patients in a rural South African community.[4] This observation emphasises the relevance of *C trachomatis* as a possible causative factor in postpartum sepsis which is a leading cause of maternal morbidity and mortality in many developing countries. It also has significant implications in terms of perinatal transmission. About 60–70% of exposed infants acquire the infection and develop a number of diseases including conjunctivitis and congenital pneumonia.[3] The potential for spread of the infection in our environment is high because of the widespread practice of polygamy in this part of the world.

In conclusion, it is apparent that there is a high prevalence of genital *C trachomatis* infection in our low risk study population and we propose to carry out larger studies of different risk groups.

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1 Bensti C, Klufio CA, Perine PL, Bell TA, Cles LD, Koester CM, *et al.* Genital infection with *Chlamydia trachomatis* and Neisseria gonorrhoea in Ghanaian women. *Genitourin Med* 1985;52:256–63.
2 Darougar S, Forsey T, Osoba AO, Dines RYJ, Adelusi B, Coker GO. Chlamydial genital infection in Ibadan, Nigeria: seroepidemiological survey. *Br J Venereal Dis* 1982;58: 366–9.
3 Schachter J, Grossman M. Chlamydial infections. *Annu Rev Med* 1981;32:45–61.
4 O'Farrell N, Hoosen AA, Kharsany ABM, Van Den Ende J. Sexually transmitted pathogens in pregnant women in a rural South African community. *Genitourin Med* 1989;65:276–80.
5 Paavonen J, Saiku P, Vesterine E, Meyer B, Saksela E. Genital chlamydial infection in patients attending a gynaecology outpatient clinic. *Br J Venereal Dis* 1978;54:257–9.
6 Johannison G, Lowhagen GB, Lycke E. Genital *Chlamydia trachomatis* infection in women. *Obstet Gynecol* 1980;56:561–3.
7 Frost E, Collet M, Reniers J, Leclerc A, Ivanoff B, Meheus A. Importance of chlamydial antibodies in acute salpingitis in Central Africa. *Genitourin Med* 1987;63:176–8.

Associated factors in women with genital chlamydia trachomatis infection

*Factor**	*Total number*	*No positive*	*Percentage*
Vaginal discharge	65	7	10·8
Lower abdominal pain	23	5	21·7
Infertility	23	5	21·7
History of PID/STD	54	9	16·7
Asymptomatic	64	2	3·1

*Most women had multiple factors.

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Provision of diagnostic services for genital chlamydial infection in genitourinary medicine clinics: England and Wales 1996

A substantial prevalence of genital chlamydial infection has been reported among both men and women attending genitourinary medicine (GUM) clinics.[1 2] The majority of genital chlamydial infections are asymptomatic and a substantial reservoir of asymptomatic infection exists in men attending GUM clinics.[2] Consequently, screening for infection among all GUM clinic attenders represents an important intervention strategy for the control of what is the commonest, curable sexually transmitted infection in England and Wales.[3] Several authors have described a rapid expansion in the availability of diagnostic facilities for genital chlamydial infection in GUM clinics over the past 12 years.[4–6] However, to date, audits of diagnostic services have only assessed the availability of services for female clinic attenders. We report a study of the provision of diagnostic services for genital chlamydial infection among both men and women in all GUM clinics in England and Wales.

All GUM clinics in England and Wales were contacted and a telephone questionnaire administered covering the following questions: was a routine screening service for the diagnosis of genital chlamydial infection available, who was screened, which site was sampled and what testing strategy was used? Information was available for 235 of the 242 GUM clinics contacted. Routine screening of all new attenders and re-attenders with a new episode was undertaken for women at 98% of clinics, for heterosexual men at 94% of clinics and for homo/bisexual men at 93% of clinics. The selective criteria used by clinics not offering universal screening varied from screening only men with urethritis to screening men who did not have urethritis. Two centres undertook urine testing for male attenders, none used urine testing for female attenders (62% cervix only, 38% cervix and urethera). Enzyme immunoassay, direct fluorescent antibody and culture are used as initial tests in 77%, 15% and 6% of clinics respectively. One clinic used DNA amplification tests (ligase chain reaction), although two sites hoped to instigate the new technology in the immediate future.

The results of this survey indicate that the provision of diagnostic services for female clinic attenders has improved since the last survey.[6] However, it has also shown that a number of clinics appear to offer only selective screening policies for male clinic attenders. Strategies for contact tracing vary between clinics. A positive chlamydial test may result in partner notification whereas a diagnosis of urethritis may not lead to health adviser intervention. Equal emphasis needs to be placed on the detection of genital chlamydial infection in both men and women attending GUM services if infection